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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/690,481 | FAVRET ET AL. | |
| | Examiner | Art Unit | |
| | Victor J. Taylor | 2863 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7 April 2006.
2. ☒ The allowed claim(s) is/are 1 and 3-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see the amendments and arguments of record, filed 7 April 2006, with respect to the rejection have been fully considered and are persuasive. The 101 rejection of 13 January 2006 is moot and has been withdrawn.

Allowable Subject Matter

2. Claims 1, and 3-26 are allowed. Claim 2 has been cancelled.
3. The following is an examiner's statement of reasons for allowance:

The arguments and amendments of record for the methods and systems for the interactive investigation of an image set of geophysical data over a first N-dimensional volume and a subvolume enclosing a known feature of interest within a target set of geophysical data distributed over a second N-dimensional volume is selected and a cross-correlation is calculated between the data distributed within the subvolume and the corresponding data distributed in the first N-dimensional volume above multiple positions is not found in the cited art and are allowable over the cited art of record.

Wherein Claim 1, the method for investigating an image set of geophysical data distributed over a first N-dimensional volume where N is not greater than 2 with steps for "using a computer system to include an input device and a processor and a display device"...[wherein] the steps for "receiving with the input device, the image set of geophysical data and a target set of geophysical data distributed over a second N-dimensional volume"...[and] with the explicit for "selecting with the processor a subvolume of the target set of geophysical data with the subvolume enclosing a known

feature of interest"...[and] with "at each of a plurality of positions within the first N-dimension volume calculating with the processor a cross-correlation between the data distributed within the subvolume and corresponding data distributed in the first N-dimensional volume about the each of the plurality of positions"...[and] with the explicit step for "displaying for a user on the display device a distribution of results of calculating the cross-correlation throughout the first N-dimension volume" is not found in the cited art of record.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

Claims 3-16 are variously dependent on the allowed independent claim 1 and are allowed at least for the reason cited above.

Wherein claim. 17, the method for investigating an image set of real geophysical data distributed over a first N-dimensional volume where N is not greater than 2 according to a known feature of interest identified in a target set of real geophysical data distributed over a second N-dimensional volume with steps for "using a computer system to include an input device and a processor and a display device" wherein the steps for "receiving with the input device, the image set of geophysical data and a target set of geophysical data"...[and] with steps for "transforming with the processor the real geophysical data of the first N-dimensional volume to complex data by performing a Hilbert transformation on the real geophysical data of the first N-dimensional volume"...[and] with steps for "transforming with the processor the real geophysical data of the second N-dimensional volume to complex data by performing a Hilbert

transformation on the real geophysical data of the second N-dimensional volume"...[and] with the explicit for "selecting with the processor of the target set that encloses the known feature of interest in accordance with a user instruction"...[and] with "at each of a plurality of positions within the first N-dimension volume calculating with the processor a cross-correlation between the transformed data within the subvolume and corresponding transformed data distributed in the first N-dimensional volume about the each of the plurality of positions"...[and] with the explicit step for "displaying for a user on the display device a distribution of results of calculating the cross-correlation throughout the first N-dimension volume" is not found in the cited art of record.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

Claims 18-20 are variously dependent on the allowed independent claim 17 and are allowed at least for the reason cited above.

Wherein claim 21, a computer readable storage medium having a computer-readable program embodied therein for directing operation of a computer system including an input device and a processor and display device wherein the computer readable program includes instructions for operating the computer system for investigating geophysical data in accordance with the following steps for "receiving with the input device, an image set of geophysical data distributed over a first N-dimensional volume where N is not greater than 2"...[and] with the explicit step for "receiving with the input device, a target set of geophysical data distributed over a second N-dimensional volume"...[and] with the steps for "receiving with the input device, a first user instruction

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identifying a subvolume of the target set that encloses a known feature of interest"...[and] with the steps for calculating with the processor at each of a plurality of positions within the first N-dimensional volume a cross correlation between the data distributed within the subvolume and corresponding data distributed in the first N-dimensional volume about the each of the plurality of position" is not found in the cited art of record.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

Claims 22-26 are variously dependent on the allowed independent claim 21 and are allowed at least for the reason cited above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion.


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor J. Taylor whose telephone number is 571-272-2281. The examiner can normally be reached on 8:00 to 5:30 PM.

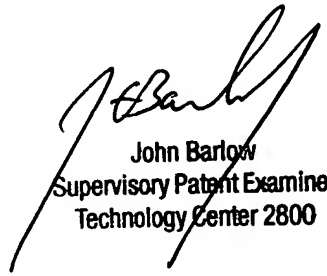
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. Taylor


12 April 2006.


John Barlow
Supervisory Patent Examiner
Technology Center 2800